

IN THE SPECIFICATION

Please replace the Title of the Invention -- SURFACE MOUNT HEADER ASSEMBLY -
- with the following amended title -- SURFACE MOUNT HEADER ASSEMBLY HAVING A
PLANAR ALIGNMENT SURFACE -- .

Please replace paragraph [0027] with the following amended paragraph removing the
underlining from reference numeral 108:

[0027] Lever slots 116 are formed in each of the longitudinal side walls 102 in
communication with the contact ~~cavity 108~~ cavity 108 (Figure 1). The lever slots 116 are
configured for receiving and maintaining an actuation lever of a mating connector (not shown)
for engaging electrical contacts of the mating connector with electrical contacts (described
below) in the ~~header 100~~ header. Various slots and keying features 118 are provided in the
longitudinal side walls 102, the lateral side walls 104, and the bottom wall 106 of the housing
100 for guiding mating portions of the mating connector to align the electrical contacts of the
header and the mating connector. It is understood, however, that in alternative embodiments the
lever slots 116 and/or the slots and keying features 118 may be omitted in a manual (i.e., not
assisted) connector assembly.

Please replace paragraph [0028] with the following amended paragraph:

[0028] Solder clip mounting lugs 120 extend outwardly from exterior surfaces 122 of
each of the lateral side walls 104 between the longitudinal side walls 102. Alignment lugs 124
are also extended outwardly from each of the exterior surfaces 122 of the lateral side walls 104 at
the corners of the housing 100. Each of the alignment lugs 124 includes ~~an alignment~~ a biasing
rib 126 (Figure 1) on an end surface 127 thereof. As explained below, the mounting lugs 120,
the alignment lugs 124 and the ~~alignment~~ biasing ribs 126 serve to locate solder clips (described
below) on each of the lateral side walls 104 of the housing 100 so that surfaces of the solder clips

are positioned coplanar with solder tails on the contact interface 110 (Figure 2) of the housing 100. Troughs or slots 121 may be provided around the ~~mounting~~ alignment lugs 124 for collection of skived or shaved portions of the lugs 120 as the solder clips are installed. ~~Notches~~ Notches 129 are provided in the bottom end of the lateral side walls 104, and the notches are employed to retain the solder clips to the lateral side walls 104 as explained below.

Please replace paragraph [0030] with the following amended paragraph:

[0030] Referring to Figure 2, the contact interface 110 of the housing 100 includes a slotted positioning member 132 extending parallel to the longitudinal side walls 102, and one slot is provided in the positioning member 132 for each contact aperture in the outer row of apertures 112 and the inner row of apertures 114. When solder tails of the contacts (described below) are ~~receiving~~ received in the respective slots of the positioning member 132, the solder tails are prevented from moving in the direction of arrow A which extends substantially parallel to a longitudinal axis 133 of the housing 100. The contact interface 110 further includes an alignment surface 134 extending upon an alignment rib 136 adjacent each of the longitudinal side walls 102. The alignment surfaces 134 are coplanar to one another and are laterally spaced from the positioning members 132 such that the positioning members 132 are located between the alignment surfaces and the respective outer row of contact apertures 112. As explained below, the alignment surfaces 134 provide a registration surface which ensures that ends of the solder tails on the contact interface 110 are coplanar to one another. Preloading of the solder tails against the alignment surfaces 134, as explained below, ~~prevent~~ prevents the solder tails from moving in the direction of arrow B which extends perpendicular to the longitudinal axis 133.

Please replace paragraph [0036] with the following amended paragraph:

[0036] Figure 5 is a front elevational view of a second contact ~~assembly~~ set 170 which may be employed in the inner row of contact apertures 114 (shown in Figures 1 and 2) of the

housing 100. In an exemplary embodiment, the contact set 170 includes contact sections 172, aperture sections 174 and solder tail sections 176. The aperture sections 174 are shaped and dimensioned to produce an interference fit when inserted into an aperture in the row of contact apertures 114 and the contact sections 172 and the solder tail sections 176 are offset with respect to one another relative to the aperture sections 174. That is, the contact sections 172 and the solder tail sections 176 have spaced centerlines. The offset in contact sections 172 and solder tail sections 176 achieves a desired centerline spacing of the solder tail sections 176 relative to the solder tail sections 156 (shown in Figures 3 and 4) when the contact sets 150 and 170 are installed in the housing 100. Because the contact set 170 is installed to the inner row of contact apertures 114, the contact set 170 has a greater length L than the first contact set 150 which is installed to the outer row of contact apertures 112 in the housing 100.

Please replace paragraph [0040] with the following amended paragraph:

[0040] A retention tab 198 is formed on an ~~edge 200~~ edge 191 of the body section 192 which faces the contact interface 110 (shown in Figure 2) of the housing 100 when the solder clip 190 is installed. The tab 198 may be folded over a lateral side wall 104 and retained in the notch 127 (shown in Figure 2) therein. Edges 202 of the alignment apertures 196 contact the biasing ribs 126 (shown in Figure 1) of the alignment lugs 124 of the housing 100. Assurance is therefore provided against movement of the solder clip 190 along two mutually perpendicular axes indicated by arrows C and D.

Please replace paragraph [0043] with the following amended paragraph:

[0043] Alignment tabs 204 project from the ~~edge 200~~ edge 191 and include solder clip board engagement surfaces 206 which are flat and smooth. The board engagement surfaces 206 contact a planar surface of a circuit board during surface mounting of the header assembly and are soldered to the circuit board. The soldering of the alignment tabs 204 provides structural

strength and rigidity which provides strain relief to the soldered connections of the contact sets 150 and 170.

Please replace paragraph [0047] with the following amended paragraph:

[0047] Figure 11 is a cross sectional view of the header assembly 200 at a second stage of manufacture wherein tooling, such as forming dies 210 and 212, is employed to bend the solder tail sections 156 and 176 toward the contact interface 110 of the housing 100. Once the forming die 212 is removed, the contacts may be further inserted through the contact interface 110 by seating the forming die 210 in the direction of arrow E to bring the bent solder tail sections 156 and 176 to the contact interface 110.

Please replace paragraph [0049] with the following amended paragraph:

[0049] Figure 12 is a cross sectional view of the header assembly 200 at a third stage of manufacture wherein the aperture sections 154 and 174 (shown in Figures 9 and 10) are fully inserted into the respective rows of contact apertures 112 and 114 in the housing 100 to a final position. In the final position, the solder tail sections 156 and 176 are fitted through the slots in the positioning member 132 (also shown in ~~Figure 1~~ Figure 2), and the rounded ends 160 and 180 of the respective solder tail sections 156 and 176 are aligned with one another and in abutting contact to the ~~positioning~~ alignment rib 136. As shown in Figure 12, the alignment surface 134 is rounded or crowned and shaped to smoothly establish contact with the rounded end 160 and 180 of the contact sets 150 and 170. The solder tail sections 156 and 176 are flexed from the position shown in Figure 11 and are obliquely oriented to the contact interface 110 of the housing 100, thereby creating an internal biasing force in the contact sets 150 and 170 which preloads the solder tail sections 156 and 176 against the alignment surfaces 134 of the alignment ribs 136. Such biasing or preloading of the solder tail sections 156 and 176 substantially prevents vertical movement of the solder tail sections 156 and 176 in the direction of arrow B as the header assembly 200 is handled prior to surface mounting and during surface mounting

installation. Further, a final angle α of the solder tails 156 and 176 with respect to a top surface 230 of the lateral side walls 104 assures a satisfactory solder joint to a circuit board.